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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,071	06/27/2002	Alf Hammes	ZOU-1999DE507	7262
7590	04/20/2005		EXAMINER	
Richard S. Roberts Roberts & Roberts, LLP, Attorneys at Law P.O. Box 484 Princeton, NJ 08542			WHITE, EVERETT NMN	
			ART UNIT	PAPER NUMBER
			1623	

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/070,071	Applicant(s) HAMMES, ALF	
	Examiner EVERETT WHITE	Art Unit 1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 February 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8, 10, 11 and 19-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10, 11 and 19-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. The amendment filed February 28, 2005 has been received, entered and carefully considered. The amendment affects the instant application accordingly:
  - (A) Claims 12-18 have been canceled; Claim 9 was previously canceled;
  - (B) Comments regarding Office Action have been provided drawn to
    - (i) 103(a) rejection, which has been withdrawn.
2. Claims 1-8, 10, 11 and 19-21 are pending in the case.
3. The text of those sections of title 35, U. S. Code not included in this action can be found in a prior Office action.

### ***Finality Withdrawn***

4. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

### ***Duplicate Claims***

5. Applicant is advised that should Claim 3 be found allowable, Claim 19 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

### ***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
7. Claims 1-8, 10, 11 and 19-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites "the addition of at least one oxidizing agent to the concentrated aqueous slurry in an amount of between 0.05 and 5% by weight". This statement is indefinite since Claim 1 fails to recite the bases of the percent weight of oxidizing agent. It does appear on page 6, paragraph 6, that the bases of the amount of oxidizing agent was intended to be based on the amount of cellulose ether, which should be recited in Claim 1. Claims dependent from Claim 1 are also rejected since these claims do not clarify this error.

***Claim Rejections - 35 USC § 103***

8. Claims 1-8, 10, 11 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Traill et al (US Patent No. 1,943,461) in view of Hilbig et al (US Patent No. 5,708,162).

Applicant claims a process for the depolymerization of hot water-coagulable cellulose ethers by hydrolytic degradation by means of acids, wherein the degradation is carried out at a temperature above the cloud point of the cellulose ether as concentrated aqueous slurry, and in addition, at least one oxidizing agent is added to the concentrated aqueous slurry, before, during and/or after the depolymerization in acidic or neutral medium. Additional limitations in the dependent claims include specific cellulose ethers; the viscosity of the degraded cellulose ether; the use of mineral acids and /or organic acids as the acids; specific mineral acids; the weight ratio of water to cellulose ether; specific oxidizing agents; specific amounts of oxidizing agents; the use of specific aqueous solution of a basic salt to washed the degraded cellulose ether after depolymerization.

The Traill et al patent discloses a process of treating high viscosity cellulose ether with a dilute acid at elevated temperature and pressure until the viscosity of the ether has been reduced as far as desired. The Traill et al patent discloses that the preparation of the cellulose ether preferably involve the cellulose ether being in comminuted form, of such fineness as to pass a 20-50 mesh screen, with a dilute acid or a mixture of diute acids (see page 1, 1<sup>st</sup> column, lines 17-21 and 33-38). The acids used in the process of the Traill et al patent may be either inorganic or organic and a

Art Unit: 1623

single acid or a mixture of acids, diluted with water or other diluents compatible therewith. Examples of acids, which may be adapted for use in the process of the Traill et al patent are hydrochloric, oxalic, acetic, formic, sulphuric, and phosphoric acids, and acid sulphates. See Example 1 of the Traill et al patent wherein ethyl cellulose is heated in an autoclave with ten times their weight of a 0.5% aqueous solution of hydrochloric acid, which resulted in a cellulose ether having a viscosity of between 5-10 c.g.s units. The process of the instant claims differ from process of the Traill et al patent by claiming the addition of at least one oxidizing agent to the aqueous slurry, before, during and/or after the depolymerization in acidic or neutral medium.

However, the Hilbig et al patent shows that the use of oxidizing agent in a process to depolymerize or reduce the molecular weight of polysaccharide ethers is well known in the art. Hilbig et al discloses degradation of relative high molecular weight polysaccharides ether, which comprises initially introducing a relatively high molecular weight polysaccharide ether in suspension (e.g. in a slurry), adding a perborate as the oxidizing agent (optionally in combination with a perborate activator), and carrying out oxidative degradation at a temperature of between 25° and 90°C, preferably between 50° and 80°C (see column 3, 6<sup>th</sup> paragraph). See column 4, 2nd paragraph wherein the cellulose ethers used in the Hilbig et al patent may be selected from a group that include hydroxyethylcellulose, methylhydroxypropylcellulose and methylhydroxyethylcellulose. See column 5, lines 3-6, wherein the suspension media is selected from a group that comprises water and water-miscible organic solvents, wherein aqueous mixtures are preferred. The Hilbig et al patent discloses in column 6, lines 46-48, that the depolymerization of the polysaccharide ethers takes place at a pH of the slurry or suspension from 7 to 14, which overlaps part of the pH range set forth in instant Claim 10. The Hilbig et al patent further shows (see column 2, 2<sup>nd</sup> paragraph) that it is well known in the prior art to use hydrogen peroxide to reduce the molecular mass of polysaccharide ethers.

Applicants have only combined two well-known procedures for depolymerizing cellulose ethers to form the claimed process, that is, the process of using acids as

Art Unit: 1623

suggested in the Traill et al patent and the process of using oxidizing agents as disclosed in the Hilbig et al patent.

One would be motivated to combine the teachings of the Traill et al and Hilbig et al patents in a rejection of the claims under 35 U.S.C. 103 since both patents disclose procedures for depolymerizing or reducing cellulose ethers. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the process of using an acid to depolymerize cellulose ethers as suggested in the Traill et al patent with process steps that involve treating the cellulose ether with an oxidizing agent for depolymerization of cellulose ethers, in view of the recognition in the art, as evidenced by the Hilbig et al patent, that such a procedure result in polysaccharide ethers which can be employed in binders for improving adhesive power and film-forming properties.

9. Applicant's arguments with respect to Claims 1-8, 10, 11 and 19-21 have been considered but are moot in view of the new ground(s) of rejection.

### ***Summary***

10. Claims 1-8, 10, 11 and 19-21 are rejected. Claims 9 and 12-18 have been canceled.

### ***Examiner's Telephone Number, Fax Number, and Other Information***

11. For 24 hour access to patent application information 7 days per week, or for filing applications, please visit our website at [www.uspto.gov](http://www.uspto.gov) and click on the button "Patent Electronic Business Center" for more information.

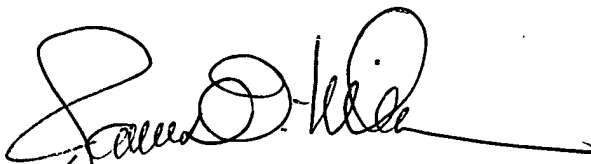
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Everett White whose telephone number is (571) 272-0660. The examiner can normally be reached on Monday-Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson, can be reached on (571) 272-0661. The fax phone number for this Group is (703) 872-9306.

Art Unit: 1623

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1235.

  
E.White

  
JAMES O. WILSON  
SUPERVISORY PATENT EXAMINER  
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